

CLAIMS

1. Gas supply arrangement (1) of a marine vessel (6) being adapted to carry liquefied gas in its cargo tank (4) having an ullage space section (4.1) and a liquid phase section (4.2), which arrangement utilises the gas as fuel to provide power for the vessel, the arrangement comprising
- a first gas supply line (2) provided for processing the natural boil-off gas formed in the cargo tank,
 - a second gas supply line (3) which connects the cargo tank (4) and the gas main supply line (7) and which is provided with at least a pump (3.1) for raising the pressure of the liquid gas and for pumping it forward, **characterised** in that the second gas supply line (3) is provided with a gas reservoir (3.2) having an ullage space section (3.3) and liquid phase section (3.7), and that the arrangement is provided with a first duct section (3.4) of the second gas supply line (3) connecting the liquid phase section of the cargo tank (4) and the liquid phase section of the gas reservoir (3.2), and being provided with the pump (3.1), and that the arrangement is additionally provided with a return line (3.14) connecting the liquid phase section of the reservoir (3.2) and the cargo tank (4) being provided with a control valve (3.15) for controllably returning liquid gas back into the cargo tank (4).
2. Gas supply arrangement (1) according to claim 1, **characterised** in that, the first duct section (3.4) of the second gas supply line (3) and the return line (3.14) are in heat transfer relation with each other by a first heat exchanger device (3.16).
3. Gas supply arrangement (1) according to claim 1, **characterised** in that, the gas reservoir (3.2) is provided with a temperature measurement device (11) being adapted to effect on the operation of the control valve (3.15).
4. Gas supply arrangement (1) according to claim 1, **characterised** in that, the reservoir (3.2) is provided with combined temperature/pressure control unit (3.6).
5. Gas supply arrangement (1) according to claim 3, **characterised** in that the combined temperature/pressure control unit (3.6) of the reservoir (3.2) comprises a

second heat transfer device (3.9, 3.9') for applying heat to the liquid phase gas in the reservoir (3.2).

6. Gas supply arrangement (1) according to claim 1, **characterised** in that the reservoir (3.2) is provided with surface level control arrangement (8) for controlling the surface level of the liquid phase section (3.7).

7. Gas supply arrangement (1) according to claim 2, **characterised** in that the second heat transfer device (3.9) is provided with control device (9, 9.1) responsive to the gas pressure in the reservoir (3.2).

8. Method of providing gas in a gas supply arrangement of a marine vessel (6) with liquefied gas tank (4) having an ullage space section (4.1) and liquid phase section (4.2), and a gas consumption device (5), in which arrangement gas is led to the consumption device (5) via a gas supply line (3), which connects liquid phase section (4.2) of the cargo tank (4) and the gas consumption device (5), the gas supply line (3) being provided with a pump (3.1) for raising the pressure of the liquid gas and pumping it forward, **characterised** in that in the gas supply line gas is fed into a reservoir (3.2) having an ullage space section (4.1) and liquid phase section (4.2), in which reservoir (3.2) the gas is temporarily stored and from which gas is introduced to the gas consumption device (5), and that the temperature in the reservoir (3.2) is maintained at desired level so that evaporation of desired known component or components of the gas occur and that at least a part of non-evaporated liquid gas is returned to the tank (4).

9. Method of controlling gas pressure according to claim 11, **characterised** in that the pressure of the gas in the in the gas supply line (3) is controlled by controlling the temperature (9,9.1,3.6) of the liquid phase section (3.7) of the reservoir (3.2).